

## NOCTURIA AS CLINICAL PREDICTOR OF OBSTRUCTIVE SLEEP APNEA

### Hypothesis / aims of study

Troublesome nocturia is common in the urogynecologic population. A clinical algorithm has been suggested<sup>1</sup> for the clinical investigation of nocturia but has not been clinically validated. The algorithm suggests that when nocturia with nocturnal polyuria (NP) is present, the differential diagnosis includes obstructive sleep apnea (OSA). The clinical yield of the evaluation of patients with nocturia and NP for the presence of OSA has not been described. We report our clinical experience with the use of inpatient polysomnography (sleep study) for investigation of nocturia.

### Study design, materials and methods

After Institutional Review Board approval, we conducted a retrospective chart review of patients referred from our tertiary urogynecologic center during 2004-2006 for polysomnography to investigate nocturia. During that time, patients were referred for polysomnography if they had bother with nocturia, and (a) nocturnal polyuria (NP) was revealed by a 24-48 hour urinary diary, or (b) if a patient was unable to keep a urinary diary, there was a strong clinical suspicion that OSA was present. The sleep study diagnosis and the apnea-hypopnea index (AHI; a measure of the number of apneic or hypopneic episodes per hour of sleep, with AHI>5 diagnostic of OSA) were reviewed.

### Results

Thirty-nine patients were referred for polysomnography, 23 of whom had NP by urinary diary record. The other 16 patients had nocturia and clinically suspected sleep apnea (snoring, new-onset nocturnal enuresis, excessive daytime sleepiness) of whom 3 patients had urinary diaries that did not show NP.

OSA was diagnosed in 17 (74%) of the 23 patients with a diary record of NP, and was diagnosed in 29 (74%) of the entire cohort of 39 patients. Two patients without NP on their urinary diary, did demonstrate OSA during testing.

### Interpretation of results

The rate of OSA diagnosis in the clinical setting of troublesome nocturia is high, even when NP has not been diagnosed. Since the first presentation of OSA may be the associated nocturia symptoms, we should maintain a high suspicion of sleep disorder when a patient presents with nocturia. Our experience suggests that patients without NP may also have OSA. Future studies will determine whether evaluation of the patient for the presence of NP is in fact clinically useful.

### Concluding message

OSA should be in the differential diagnosis of nocturia even when nocturnal polyuria is not present.

### References

1. Neurourol Urodyn 2002; 21: 179-183.

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**HUMAN SUBJECTS:** This study did not need ethical approval because This was a retrospecitve review. We were apporved by the Loyola University Medical Center IRB committee but followed the Declaration of Helsinki Informed consent was not obtained from the patients.